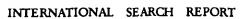
International application No. PCT/US02/22807

## CLASSIFICATION OF SUBJECT MATTER IPC(7) :C08J 9/00; B01J 31/00 US CL :521/125, 129, 902; 502/155, 156, 167, 170, 172 According to International Patent Classification (IPC) or to both national classification and IPC FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) 521/125, 129, 902; 502/155, 156, 167, 170, 172 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category\* Citation of document, with indication, where appropriate, of the relevant passages Y 1-5, 7-20 US 5,086,081 A (SAVOCA et al.) 4 February 1992, col. 3, 1, 43-Y US 5,162,379 A (SAVOCA et al.) 10 November 1992, col. 4, l. 60. 1-5, 7-20 Y 1-5, 7-20 US 5,166,223 A (SAVOCA et al.) 24 November 1992, col. 5, 1. 15. Y US 5,177,046 A (SAVOCA et al.) 5 January 1993, col. 4, 1. 40-41. 1-5, 7-20 Y US 5,238,894 A (SAVOCA et al.) 24 August 1993, col. 5, 1. 15. 1-5, 7-20 Y US 5,248,646 A (SAVOCA et al.) 28 September 1993, col. 4, 1. 58. 1-5, 7-20 X Further documents are listed in the continuation of Box C. See patent family annex. later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance document of particular relevance; the claimed invention cannot be earlier document published on or after the international filing date considered novel or cannot be considered to involve an inventive step when the document is taken alone document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "L" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination "O" document referring to an oral disclosure, use, exhibition or other being obvious to a person skilled in the art document published prior to the international filing date but later document member of the same patent family than the priority date claimed Date of mailing of the international search report Date of the actual completion of the international search 12 DEC 2082 01 OCTOBER 2002 Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Authorized officer Box PCT JAMES PASTERCZYK Washington, D.C. 20231 Facsimile No. (703) 305-3230 Telephone No. (703) 308-0661



International application No. PCT/US02/22807

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT			
Category•	Citation of document, with indication, where appropriate, of the relevant	n, where appropriate, of the relevant passages	
Y	US 4,710,521 A (SOUKUP et al.) 1 December 1987, abstract, col. 2, l. 16-23, col. 5, l. 20-29.		1-20
Y	S 4,771,025 A (ELING et al.) 13 September 1988, abstract, col., l. 54 to col. 2, l. 32,		1-20
Y	JS 4,217,247 A (SZABAT et al.) 12 August 1980, abstract, col. 4, 28-59.		6
Y	US 5,454,561 A (WILLIAMS et al.) 7 November 1995, col. 6, 1. 28-36.		6
	•		
!	•		

Form PCT/ISA/210 (continuation of second sheet) (July 1998)\*